

**NITELLA EUARTHRA (A.BR.) COMPÈRE (CHAROPHYTA)
REDISCOVERED IN SOUTH AFRICA**

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ABSTRACT

The endemic South African Characeae *Nitella euarthra*, hitherto known only by the type specimen destroyed in Berlin, is described and illustrated from a specimen recently collected in the same area as the holotype. This specimen is proposed as neotype for this taxon; its taxonomic status is discussed and a new combination is introduced at the rank of species.

UITTREKSEL

**NITELLA EUARTHRA (A.BR.) COMPÈRE (CHAROPHYTA) HERONTDEK
IN SUID-AFRIKA**

Dit tipe-eksemplaar van die endemiese Suid-Afrikaanse Characeae *Nitella euarthra* is in Berlyn vernietig. 'n Beskrywing en illustrasie van 'n eksemplaar vanaf die Kamiesberg, die oorspronklike tipe-lokaliteit word aangebied. Die taksonomiese status van hierdie takson word bespreek, 'n nuwe kombinasie word gemaak en 'n neotipe word aangewys.

In October 1980, C. Evrard, a member of the Belgian Namaqualand-Namib-Expedition sponsored by the "Fonds Leopold III", collected in a pond near Kamiesberg a Characeae that I identified as *Nitella dregeana* f. *euarthra*.

This endemic South African plant was originally described by A. Braun (1868: 878) as *Nitella tricuspis* var. *euarthra*, based on a specimen collected by Drège (no. 2998.6) from a locality "zwischen Pedroskloof und Liliefontein, bei den Kamiesbergen, Nordwestküste des Caplands". Apparently this plant was never collected again and its holotype was destroyed in Berlin. Inquiries in B, BM, BR, HBG and PC failed to locate any duplicate of the type collection. In the latest monograph of the Characeae (Wood & Imahori, 1965) and in the most recent treatment of the family for the *Flora of Southern Africa* (Wood, 1978), this taxon is reduced to the rank of forma, as *Nitella dregeana* f. *euarthra*. In both works the description of this taxon is based only on Braun's original description since neither voucher specimen nor illustration were available. Since the specimen *Evrard 9065*, collected in the same area as the missing holotype, matches well with Braun's original

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description, especially in the moderately stout axes, divergent and recurved dactyls and bigger oospores, it is here formally proposed as neotype for this taxon.

In addition, this specimen shows some features not recorded by Braun (1868): the mature oospore is crowned by flanged prolongations of the spiralled ridges of the outer membrane, a character rarely depicted in *Nitella*, and the whorls often have accessory, shorter and somewhat recurved branchlets, a character shared by *N. hyalina* and other species in the section *Decandollea*. Consequently, this taxon appears as intermediate between the sections *Persoonia* and *Decandollea*; it is here considered as a species belonging to sect. *Persoonia*, because of the reduced dactyls forming tiny terminal coronae, but indicating some transition to sect. *Decandollea* by the presence of accessory branchlets at some whorls. Another South African specimen, Zeyher 4647, "Capland, im Kanal des Zwartkopsrivier, Distr. Uitenhage" was described by A. Braun (1868: 890) under the name *N. hyalina* var. *oligactis* (nom. inval.) as having reduced accessory branchlets; however, examination of a duplicate in PC showed that it is a monoecious plant, with normal dactyls of sect. *Decandollea*, closely related to *N. hyalina*.

***Nitella euarthra* (A.Br.) Compère, comb. et stat. nov. (Fig. 1)**

Nitella tricuspis A.Br. var. *euarthra* A.Br. in Monatsber. K. Preuss. Akad. Wiss. Berlin 1867: 878 (1868): holotype: Drège 2998.6 (B †); neotype: Evrard 9065 (BR; duplicates in B, BM, NBG, PRE).

Nitella dregeana A.Br. f. *euarthra* (A.Br.) R.D. Wood in Wood & Imahori, Rev. Characeae, vol. I, Monogr.: 701 (1965).

Plant dioecious, 100–150 mm high, with clearly formed heads. Axes moderately stout, 500–1 000 µm. in diameter; internodes 1–2 times longer than the branchlets. Whorls of 6–8 normally developed branchlets, often with some accessory smaller branchlets; sterile branchlets 1–2 furcate, terminated by a corona of (2)–3–(5) tiny, mostly 2-celled dactyls. Fertile branchlets generally condensed into heads; gametangia on separate plants, solitary or geminate at fertile branchlet nodes. Oospores dark brown to almost black, 300–400 µm long, 250–350 µm wide, crowned by the strongly flanged prolongation of the spiralled ridge; membrane coarsely granulose. Antheridia orange, circa 500 µm in diameter.

CAPE PROVINCE—3018 (Kamiesberg): "zwischen Pedrooskloof und Liliefontein, bei den Kamiesbergen, Nordwestküste des Caplands", Drège 2998.6 (B †, holotype); "mare d'eau stagnante, Kamiesberg (= Leliefontein), Namaqualand", Oct. 1980, Evrard 9065 (BR, neotype; B, BM, NBG, PRE).

FIG. 1. *Nitella euarthra*

1. Upper part of female plant; 2. Branchlet of female plant; 3. Oogonium; 4. Oospore with basal claws and apically prolonged ridges; 5. Oospore membrane; 6. Upper part of male plant; 7. Branchlet of male plant; 8. Antheridium; 9. Shield of antheridium; 10. Sterile whorl, with four accessory branchlets; 11. Upper part of sterile branchlets, showing the corona of reduced dactyls.

The new combination *Nitella euarthra* has been previously published by Wood (Wood & Imahori, 1965: 780), in the *Microspecies Appendix* of their *Revision of the Characeae*. This combination is, as are all the new names published in this appendix, clearly invalid under the *International Code of Botanical Nomenclature* (Stafleu *et al.*, 1978) since (1) it lacks the compulsory type and direct reference to the basionym (art. 33.2); (2) it is the name of a taxon whose rank is denoted by a misplaced term (microspecies) (art. 33.4 and

specially the Gandoger example); (3) it is not accepted by the author in the original publication (art. 34.1), since Wood consistently uses the combination *N. dregeana* f. *euarthra* in the book and states in the introductory note to the *Microspecies Appendix* that "The microspecies . . . is equivalent to the writer's forms" and that they are provided "in recognition of the possible need or demand for a narrowly defined specific taxon". Thus, the combination proposed by Wood at the microspecies (= form) level is clearly invalid and cannot be used for this taxon at the species rank.

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